Lianrui Electronics-Product Naming Rules

Version **5.2** Preparation date: **2022-3-15**

V4.2	Where to change: Optimise fibre optic transceiver naming rules V1.3	
V4.3	Modification: Add the naming rule of company's array card model (V1.1).	
V4.4	Modified: Company's backplane model naming rules (V1.0)	
V4.5	Modification: Add USB3.1 card/network card to the model name of the array card, and add XF in the F item to represent the meaning.	20160621
V4.6	Modified: Fibre module naming rules modified 10G module rules, v1.1.	20160707
V4.7	Modified: Fibre module naming rules to add single-fibre module definition, v1.2.	20161022
V4.8	Modification: Add naming rules for corporate hard disc cartridge series and home NAS series (v1.0)	20161111
V4.9	Modified: Fibre optic module naming rules modified for single fibre module definition, version V1.3	20170111
V5.0	Modification: Add naming rules for the company's adapter card series without chip class (v1.0)	20170218
V5.1	Modified: Add naming rules for 3rd generation NICs (v1.0)	20171209
V5.2	Modification: Add IOT Division product naming rules (V1.0)	20220315

IoT Division Product Line

Naming Rules: Specialised

Card Series:

In principle, the product line of the dedicated card category follows the naming rules of the third-generation network card products:

(LRES series 5000 series, 8000 series, 9000 series numbers belong to IOT division)

MiniPCIe/M.2 Series: LRES2000

BYPASS Series: LRES8000

I/O Card Series: LRES5000

FPGA Series: LREG1000

Mezzanine Card Series: LREM1000

LRES	1	0	0	0	PF	-PF	2	SFP28
A	B	C	D	E	F	G	H	

Description:

A: "LR": the first letter of the Chinese character Lianrui, "E": Ethernet (Ethernet), "S": special-purpose network card, "G": FPGA series network transmission card, "M": mezzanine type network card;

B: represents the sub-series of the board: 1-1000 series; 2-2000 series; 4-4000 series (see description above) C: represents the type of slot: 0-standard PCIe 1-represents non-standard PCIe2 - MiniPCIe 3-OCP 4---M.2 D: Together with "E", represents two digits of different models. Reserved when not in use

E: Different models of the same series, 1~9 cycle increment:

F: stands for network card port type: PF - optical; PT - electrical; IO - IO interface; SE - serial; US - USB;

G: stands for the number of interfaces: "Empty": single port, 2: dual port 4:Quad port 6:Six ports 8:8 ports。。。。。。。。

H: stands for Interface Mode: QSFP+:40G; SFP28:25G; QSFP28:100G;. SFP+:10G ; SFP:1G ; RJ45: electrical port; empty: none

Whole series:

The general principle of the naming rules of the whole series of product lines is divided into different series according to different industry applications:

HS100 Series: Network

Security Series HS200

Series: Industrial

Control Series HS300

Series: Edge Computing

Gateway

HS	200	-I	I3XXX	E	6	T
A	B	C	D	E	F	G

Description:

A:"HS" initials of "Hengshi".

B: Different product lines: (see classification above)

C: stands for CPU Manufacturer: I---INTEL D---AMDA---ARM architecture

D: stands for CPU model: I---"Core series" P---"Pentium series". C---"赛扬系列" E---Xeon A ----- ARM architecture Note: take a total of five bits, in addition to the initial letter, the remaining four bits of the CPU model; less than four bits of the complement X, more than four bits to take four bits

E: stands for structure type: E-embedded chassis F - server chassis O---other F: stands for the number of main ports: 4, 6, 8, 10, 20, 24 .....

G: stands for Main Interface Type: T: RJ45S: Optical Fibre U: USB C - Serial I---IO P---POE B---BYPASS Empty: No primary interface type

IO interface board internal naming:

General principles: HSEX - selected motherboard designation - interface type

HSEX-	R250-	8	P	HSEX -
R250 - 8 P	00 - - - - - - - - - - - - - - -			-0 A
0 A	B	A B	D	E
F				

Description:

A:"HSEX": HS stands for Hang Shi, EX stands for Extension.

B: the core board code of different manufacturers: take four, more or less complementary "X" . For example, R250 represents the core board of R250.

C: Number of major ports:

D: Port Type: T-RJ45 P---POE U---USB C----serial port X---PCIe Expansion Slot I---IO

E: For different versions of the same specification: two digits, in ascending order.

F: represents the number of a sub board within the same IO board: e.g. LED board, keypad board, interface board.

Switch product naming rules:

LRE□-□ □ □ □ □

A B C D E F

LE:"LR" denotes the beginning letter of LR-Link and "E" denotes the beginning letter of Ethernet.

A: Product Category:"S" for Switch,"F" for Fiber Transceiver,"C" for NIC.

B: "1" indicates normal type,"2" indicates managed type and "3" indicates managed fibre optic switch.

C: "0" for 100 Gigabit rate,"2" for Gigabit rate.

D: "00" indicates the number of valid ports, and multiplexed ports are counted as only one.

E: "R" denotes Rack type,"C" denotes Corridor type,"D" denotes Desktop type, "T" denotes uplink port is electrical,"F" indicates that the uplink port is optical.

F: "1" is used only in the floor switch to indicate the number of optical ports.

Note 1: In the LES-3000F managed fibre optic switch series, the 2nd digit indicates the number of electrical ports, and the 3rd and 4th digits indicate the number of optical ports.

For example: LES-3816F is: 16-optical 8-power Gigabit managed fibre optic switch LES-3024F That is: 24-port all-optical Gigabit managed fibre optic switch

Note 2: The second digit in the floor switch series:"0" means external power supply,"1" means internal power supply. For example: LES-1008C1 is: 1 light, 7 power (external power supply) 100Gb/s building switch.

LES-2108C That is: 8-port (built-in power supply) 100Gb managed floor switch

Fibre optic transceiver naming rules: **V1.3**

LREF	-	1	0	1	M	-	C	85	-	02
		A	B	C	D	E		F	G		H

A:"F" fibre optics.

B:"1" 10/100Mpbs;"2" 10/100/1000Mbps. C: Power structure: "O" external power supply;

"1" fixed (desktop) built-in power supply, "2" plug-in built-in power supply;

D: Number of RJ45 ports: "1/2/4/6/7" 1 RJ45 port.

E: Fibre mode: "M" Multimode Dual Fibre (MM)

"S" Single Mode Dual Fibre (SM)

"B" single-mode, single-fibre (BD)(Bi-Di bi-directiona) "P" SFP interface without module;

F: Interface type: "C" indicates 1*9 module SC interface;

"T" 1*9 module ST interface; "F" 1*9 module FC interface; "L" SFF 2*5 module LC interface;

G: Fibre wavelength: The wavelength of "85" is 850 nm;

"13" 1310nm;

"14" 1490nm;

"15" 1550nm.

H: Transmission distance:

X5: 0.5km 02: 2km 10: 10km 20:20km

40: 40km 60: 60km 80: 80km 00: 100km

Attachment: Fibre Optic Interface Types

Video Optical Transmitter Naming Rules: **V1.0**

LVS- xV xD X X X X - X
A B C D E F G H

A: LVS: Lianrui brand video optical transmitter B: xV: number of video channels
C: x D: Number of data/audio channels
D: X: Data Audio Direction 0: Same direction (one-way video)
1: Reverse (one-way video)
2: Two-way (one-way video)
3: Simultaneous (two-way video)
4: Reverse (two-way video)
5: Bidirectional (two-way video)
E: T: Transmitter, R: Receiver T/R: 1 pair
f: m: multimode, s: single mode
G: S: SC optical port, F: FC optical port, T: ST optical port
H: Option 0: None, E: Ethernet T: Telephone C: Switching

Fibre Optic Module Naming Rules Version **1.2**

V1.1 : 20160707 Replace 10G with "X" and SFP/SFP+ with **"P"**.
V1.2:20161022 Add single fibre module definition, e.g. 1315 means TX1310/RX1550, 1513 means TX1550/RX1310
V1.3:20170111 Add single fibre module definition type 30: for 1330, 12 for 1270

firms	tempo	product category	wavelength	bandwidths	transmission distance	input voltage	signal detection detect and warn	optical interface	characterisation
LR ↓	F:100M G:1G X:10G ↓	J ↓	13 ↓	12 ↓	- 20 ↓	A ↓	T ↓	L ↓	A ↓
LR	S: 1X9	Dual fibre:	dual fibre	X1:100m	A:3.3V	T:TTL	S: SC	B:BiDi
	F: SFF 2X5	85: 850nm	15:155M	X3:300m	B:5V	P:PECL	F: FC	D:DDM
	P: SFP/SFP+	30: 1300nm	62:622M	X5:500m	C:3.3/5V		T: ST	Z:BiDi centre-open
	G: GBIC	13: 1310nm	12:1.25G	02:2km			L: LC	C: BiDi Side Opening
	N: SFP E/GPON	14: 1490nm	25:2.5G	10:10km			R: RJ45	Empty: General
		15: 1550nm	21:2.125G	30:30km				
		17: 1570nm	42:4.25G	40:40km				
		20: 1000M	85:8.5G	60:60km				
		21: 100/1G	10:10G	80:80km				
		Single fibre	Single fibre	00:100km				

TX.	RX.	
13: 1310nm	13: 1310nm	12:120km
14: 1490nm	14: 1490nm	16:160km
15: 1550nm	15: 1550nm	2A:200km
30:1330nm	30: 1330nm	2C:220km
12:1270nm	12: 1270nm	

Third generation NIC naming rules:

Company Third Generation NIC Model Naming Rules

V1.0

The third generation of network card naming rules with the first generation, the second generation of larger differences, the third generation of model naming expansion, distinguishing between standard cards and functional cards as the central idea, compatible with the previous generation of naming rules, and give full consideration to the subsequent naming of the scalability and product positioning to enhance brand awareness and distinguish the scalability of the product series.

LREC Series - stands for Standard NIC, same naming convention as 2nd generation NICs. The naming rules are the same as those of the second generation NICs. See <Naming Rules for Second Generation NICs> LRES Series - stands for Third Generation NICs.

LRES1000 Series Represents high rate server NICs (10G and above, excluding 10G).

LRES2000 Series Represents Industrial Control NICs (POE, Industrial Conventional NICs)

LRES3000 Series Represents the OCP series of network cards.

LRES4000 Series represents network communication cards (BYPASS, encryption, compression).

LREG Series ---- stands for Programmable FPGA Series Card (Reserved)

o

o

o

o

o

LRE (G-Z) series - reserved (subsequent expansion)

lres 1 0 0 0 pf - 2 sfp28

AB C D E FG H

Description:

A:"LR": the first letter of the Chinese character Lianrui,"E": Ethernet (Ethernet),"S": industrial use series of network cards;

B: represents the sub-series of industrial NICs: 1-1000 Series; 2-2000 Series; 4-4000 series (see description above)

C: stands for slot type: 0-StandardPCIe 1-Stands for Non-Standard PCIe2--MINIPCIe 3-OCP 4 ML2 D: Together with "E" stands for two-digit different models. Reserved when not in use

E: Different models of the same series, 1~9 cycle increment:

F: stands for NIC port type: PF - fibre optic; MT - desktop electrical port; PT - server electrical port;

G: stands for the number of interfaces: "Empty":single port, 2: dual port 4:Quad port 6:Six ports 8:8 ports。。。。。。。。

H: stands for Interface Mode: QSFP+:40G; SFP28:25G; QSFP28:100G; SFP+:10G; SFP:1G; RJ45: Electrical Port

Examples: LRES1001PF-2SFP28: PCIe 25G Industrial Grade High Rate Server Fibre NIC LRES2201PT-RJ45: MINIPCIe Industrial Grade 1G I/O Single Electrical Port NIC LRES2202PT-2RJ45: MINIPCIe Industrial Grade 1G I/O Dual Electrical Port NIC LRES2203PF- 2SFP: MINIPCIe Industrial Grade 1G Industrial Dual Optical Network Card

Second-generation NIC naming rules:

Company NIC Model Naming Rules **V1.1**

V1.1 version 20160621: Array card model naming added USB3.1 card NIC added XF stands for meaning in F item.

LREC	7	0	1	0	PF	-LX LX
A	B	C	D	E	F	G

Description:

A:"LR": the first letter of the Chinese character Lianrui,"E": Ethernet (Ethernet),"C": card (Card);

B: represents slot type: 3-USB; 5, 7-PCI slots. 8-PCI-X slots; 6, 9-PCI-E slots; 8-PCI-X slot; 6, 9-PCI-E slot;

C: represents the type of network card: 0-100M desktop type; 2-1000M desktop type; 7-gigabit server; 8-10,000-gigabit server.

D: stands for chip manufacturer:

Note 1: In the category of desktop NICs:"D"stands for different main chip manufacturers: 0-Intel; 1-BroadCom; 2-Marvell; 3-RealTEK; 2-Marvell; 2-Marvell; 3-Marvell; 3-Marvell; 3-Marvell. RealTEK; 4-VIA; 5-Icplus.

Note 2: In other categories:"D" stands for different chip manufacturers of the same type of NIC, in increasing order of product production;

E: represents the number of ports:

Note 1: Desktop NICs (with optical and electrical ports) category:"E" represents the same chip manufacturer, different models, according to the order of product production time increment;

Note 2: Server NICs (with optical and electrical ports) category:"E" represents the number of ports, 0 - single-port; 2 - dual-port; 4 - quad-port; 4 - quad-port; 0 - single-port; 2 - dual-port; 4 - quad-port; 4 - quad-port; 4 - quad-port; 4 - quad-port; 4 - quad-port. -Single port; 2-double port; 4-quadruple port;

F: stands for NIC port type: PF/EF/HF - optical fibre; XF - Mellanox chip optical fibre; MT/CT - desktop electrical port; PT/ET/HT - server electrical port;

G: stands for Fibre Mode:"Empty":multi-mode fibre NIC,"LX": single-mode fibre NIC,"SFP": SFP interface without module,"BD": single fibre;

SC: SC Interface

Example: LREC9210PF/9220PF: PCIe Gigabit Multimode Fibre NIC (MARVELL8057/INTEL82574)

LREC9010PF/9020PF/9030PF: PCIe Hundred Gigabit Multimode Fibre NIC (REALTEK8103/VIA6105/INTEL82574) LREC9230MT/9231MT: PCIe Gigabit Desktop Electrical Port NIC (REALTEK8168S/8111C)

LREC7210MT: PCI Gigabit Desktop Electrical Port NIC (BROADCOM5702)

LREC9210MT/9220MT: PCIe Gigabit desktop electrical interface network card (BROADCOM5751/5722)

LREC9200CT/9201CT/9202CT/9203CT: PCIe Gigabit desktop electrical interface cards (INTEL82583/82574/I211/82573)

Company Array Card Model Naming Rules **(v1.2)**

Version 1.0 20150917

Version V1.1 20151014

V1.2 20160621

LR ST 9 6 30 -LR ST 9 6 3 0 4 I R

A B C D F G H

Description:

"LR": Lianrui initials;

A: stands for interface type: ST - SATA card; SA - SAS card; SU - USB

B: represents slot type: 3 - USB7 - PCI slot; 8: MINIPCI-E; 9 - PCI-E slot;

C: stands for transmission rate (hexadecimal description): 3-3Gb/t; 5---5Gb/t ; 6-6Gb/t; 8-Gb/t; A---10Gb/t; C---12Gb/t D: stands for chip type: 30-88SE9230; 15-88SE9215; 80-88SE9480; 85-88SE9485; 42-88SE9485 C---12Gb/t D:

Representative Chip Models: 30-88SE9230; 15-88SE9215; 80-88SE9480; 85-88SE9485; 42- ASM1142

F: represents the number of ports: 2-2 ports; 4-4 ports; 8-8 ports;

G: Display Card Represents port location: I - internal port; E - external port;

The USB card ---- is multiplexed with H to represent the physical interface type of USB: A - Type A; Type ----------CC

H: Array card ---- represents the function of the array card:

R-RAID function; T-Expansion function; USB card ----

represents the physical interface type of USB: A - Type A;

----------Type C

Example:

88SE9230: LRST9630-4IR PCI-E 6G Quad SATA Array Card

88se9215: lrst9615-4it PCI-E 6G Quad SATA Expansion Card

88SE9215: LRST9615-16IT PCI-E 6G 16-port SATA Expansion Card

88SE9170: LRST9670-2IT PCI-E 6G Dual Port SATA Expansion Card

88SE9480: LRSA9680-8IRPCI-E 6G Eight-Port SAS Array Card

88SE9485: LRSA9685-8ITPCI-E 6G Eight-Port SAS Expansion Card ASM1142: LRSU3A42-2AAPCI-E 10G Dual-Port Type A + Type A USB3.1 Card ASM1142: LRSU3A42-2AC PCI-E 10G Dual Port Type A+C USB3.1 Card ASM1142: LRSU3A42-2CC PCI-E 10G Dual Port Type C + Type C USB3.1 Card

Company Backplane Model Naming Rules(V1.0)

Version 1.0
201603116

6GSAS	02	A	-	D	0	-	G	1
A	B	C		D	E		F	G

Description:

A: Backplane rate and output interface; 6G: 6Gb/s, 12Gb/s, etc. SAS: SAS/SATA

B. B: represents the number of discs; 02 --- 2 discs 04 --- 4 discs 06---6 discs 12--12 discs 16--16 discs 2424 discs

C: stands for input interface type; A---SATA B ----SAS (MINISAS) C SATA+SAS (MINISAS)

D: stands for backplane with function; 0---no function D --- with delay function S --- SGPIO E--- expander F---Temperature control R RAID

E: stands for the combination function, combined with item D; 0 - no combination function e.g. ER expander+raid.

F: stands for backplane construction; T ---- tower G Rackmount

G: represents the distinction between different customers with the same board, expressed in numbers; 0 --- no specific customer 1---Customer 1 2 Client 2

Example:

6GSAS02A-00-G1: 6Gb/s 2-drive SAS input interface No function No combination function Rack-mount Designated Customer 1 use

6GSAS24B-ER-T0: 6Gb/s 24-disc SAS input interface with expander and raid capability Tower architecture No customer specified

6GSAS42C-00-G0: 6Gb/s 6-disc 4SATA+2SAS Input Interface No function No combination function Rack mount structure No specified customer

6GSAS04A-F0-T0: 6Gb/s 4-drive SAS input interface with temperature control No combinations available Tower No specified customer

Note: Tower refers to NAS or other devices that require hard drive tower placement.

Rackmount refers to 2U/3U server chassis or other equipment that requires hard discs to be placed in parallel.

Lianrui Electronics-

R&D Department

2016-3-16

Company HDD Enclosure Series Model Naming Rules(V1.0)

Version 1.0
20161111

LRS101A - M 0 3 1
A B C D E

Description:

A: stands for Hard Drive Enclosure series; Hard Drive Enclosure, DAS, Docking all belong to this series.
Note: A in LRS101A refers to the company brand, customised products are denoted by B, and so on if there are multiple customers.

B: stands for material; M---hardware P---plastic W---Wood B---Bamboo

C: stands for hard disc type; 0---MSATA2----2.5 inch 3---3.5 inch 4---M.2 5---Docking

D: represents the rate; 0---USB1.1 (first generation) 1---USB2.0 (second generation) 2---USB3.0 (third generation) 3---USB3.1 (fourth generation) E: represents the number of discs; 1---single disc 2---2 discs 3---3 discs 4---4 discs 5---5 discs .....

Example:

LRS101A-M031: Company branded single drive USB3.1 to M-SATA interface Hardware enclosure

LRS101A-M532: Company Brand Dual Disk USB3.1 to SATA Interface Docking Station with Hardware Enclosure

Note: The Docking Station generally only connects to 2.5 or 3.5 inch SATA hard drives, so there is no longer a distinction between the types of hard drives.

Corporate Home **NAS** Series Model Naming Rules **(v1.0)**

Version V1.0 20161111

LRC201 - T 2 1
A B C D

Description:

A: It stands for Home NAS series.

B: Stands for Structure; T - Tower B - Desktop

C: represents the number of hard discs; 1---single disc 2---2 discs 3---3 discs 4---4 discs 5---5 discs .....

D: represents the number of generations of updates; 1 - first generation product 2 - second generation product 3 - third generation products

Example:

LRC201-T21: 2-drive NAS per generation

LRC201-T41: 4 Disc NAS Per Generation

Note: NAS hard drive generally only access 2.5 or 3.5 inch SATA hard drive, 2.5 inch and 3.5 inch structure common, so no longer make a distinction between the types of hard drives

Lianrui Electronics-R&D Department

2016-11-11

Model Naming Rules for the Company's Non-Chip-based Adapter Card Series **(v1.0)**

Version 1.0 20170218

LR FC 9 6 1 1X -XXX XXX

A B C D E F

Description:

"LR": Lianrui initials.

A: stands for Adapter Function Card Series without Chip

B: stands for Access Interface Type: 2---PCI 3---USB 4---8644 5---M.2 6---SATA7-8088; 8: MINI PCI-E; 9--PCI-E

C: stands for Carryover Interface Type: 1---SATA2---eSATA 3---mSATA 4---SAS5---M.2 6---U.2(8643)7---8087 8---USB

D: represents the number of access ports: 1 - 1 port 2 - 2 ports and so on.

E: stands for the number of transfer interfaces: 1 - 1 port 2 - 2 ports and so on.

F: Reserved bit. This bit is added or used for other purposes only when the normal description is not fully distinguishable from similar products, and is not normally required.

Example: LRFC9611: PCIe to U.2 Adapter Card

LRFC4622: Dual-port 8644 to Dual-port 8643 Adapter Function Card

First generation NIC naming rules:

Macnet 7 0 1 0 PF- 2 LX1

A B C D E F G H

Description:

A:"Macnet" stands for the brand name;

B: represents slot type: "7": PCI slot; "8": PCI-X slot; "9": PCI-E slot; C: represents NIC type: "0": 100M desktop;"2" 1000M desktop; "4": Gigabit server; D: represents the same type of serial number:"1" in increasing order. D: stands for the serial number of the same type: "1" and so on;

E: stands for the number of ports: "0": single port; "2": dual port;

F: stands for NIC port type:"PF":fibre optic NIC; "PT": electrical port NIC.

G: represents the number of ports:"Empty": 1 port;"2": 2 ports;"4": 4 ports;

H: stands for Fibre Mode:"Empty":multi-mode fibre NIC;"LX": single-mode fibre NIC;"SFP": SFP interface without module;

Note: 1. In the naming of 100Gigabit/Gigabit desktopswhen the "H" part is empty, it means SC

interface;

2、When the NIC type is "4","DE" is replaced by two numbers after the chip model. For example: 9471PF, 9476PF.

In the naming of the Gigabit server,when the "I" part is empty, it means LC interface;